



TO: Development Services Customers

SUBJECT: **INFORMATION BULLETIN 171**
Retaining/Landscaping Walls – Permit/Inspection Requirements

DATE: March 19, 2010/*Revised June 2, 2015/October 1, 2018*

CREATED BY: Plan Review Division

Purpose:

As a customer service initiative, the Development Services Department (DSD) created this information bulletin (IB) to clarify the process and provide forms to obtain permits for retaining and landscaping walls and define the requirements for other walls built in the city limits. This IB was updated to remove an erroneous phone number.

Scope:

A retaining wall is a wall designed to resist lateral earth and/or fluid pressures, including any surcharge, in accordance with accepted engineering practice. Retaining walls are considered structures, and permits are required prior to construction as outlined by Section 105.2 in both the International Building Code (IBC) and the International Residential Code (IRC).

Retaining Wall Permits

The City of San Antonio considers retaining walls exempt from permitting if walls are 4 feet or less in height, all along its' length, measured from the grade level at the front of the wall to the top of the wall, unless the wall supports a surcharge, or impounds Class I, II or IIIA liquids. If a wall less than four feet in height supports a surcharge, a permit is still required. A surcharge is a vertical load imposed on the retained soil that may impose a lateral force on the wall in addition to the lateral earth pressure of the retained soil. Examples of surcharges are:

- Sloping retained soil steeper than 3:1 (3 horizontal to 1 vertical)
- Building foundations, parking lots, roads/driveways, footings for advertising signs and monuments or other structures that create additional forces on the wall. If these additional loads are located a distance from the wall greater than one and one-half (1 ½) times the exposed height of the wall, they are not considered surcharges.
- Solid Fences (that would contribute wind loads), that are attached or directly adjacent to a retaining wall.

Tiered Retaining Walls

Tiered walls are two or more walls tiered together that acts as a larger wall. If the horizontal distance between upper and lower walls is less than or equal to two times the height of the lower wall, measured from the face of the bottom of the wall at grade to the top of the wall, the

multiple wall system is considered a single tiered retaining wall. The total height of a tiered wall shall be measured from the grade at the front of the wall with the lowest elevation to the top of the upper wall. If the horizontal distance between walls is greater than two times the height of the lower elevation wall, then the walls are considered separate for permitting purposes.

Landscape Walls

Landscape walls are designed by landscape architects or others strictly for landscaping purposes. Though not strictly defined, they may be large heavy boulders/limestone blocks placed for landscaping purposes only, or may be walls placed in cut or fill applications strictly for the root protection of existing trees, such as a tree well in a fill condition. In these cases the walls are not considered strictly retaining walls or require designed by a Licensed Texas Professional Engineer. These landscape walls are included in the scope of this Information Bulletin since they are stand alone walls and soil is retained. Landscaping walls will be re-categorized as retaining walls by DSD if the wall is 10-feet or higher in height, or supports a surcharge from a foundation, public/private road, driveway, parking lot or other man-made structures (i.e. the imposed load is located closer than one and one-half times the height of the exposed wall).

Other Walls Not Included in this Information Bulletin

Development Services also require permits for other types of walls that may or may not retain soil. The department considers the following structures and regulated under the building codes requiring permits. However the following are not considered a retaining wall requiring a retaining wall/landscaping wall permit.

- Fences are covered under the Unified Development Code. A fence requires an over-the-counter fence permit. Based on height, a solid fence may resist sufficient wind loads to require a separate building permit with an engineered design. Predominately open fences, such as chain link and wrought iron that have no appreciable wind loads, only requires an over the counter fence permit. A fence may be designed, permitted and built within the scope of work of a larger building permit and not require a separate permit.
- Decorative facades are built to cover the face of a milled limestone wall for esthetic purposes and not intended to retain the limestone substrate. These are not retaining walls for purposes of this Information Bulletin. They are considered structures and require an engineered design and a separate building permit. They may be covered within the scope of work of a larger building permit and not require a separate permit.
- Detention Pond Walls designed as part of a detention pond. These are civil structures permitted separately as part of the scope of a larger building permit.
- Foundation Walls/Basement Walls/ These are designed by structural engineers as part of a foundation. They may include extensions of a building foundation outdoors that retain soil on one side – wing walls. These are permitted as part of the building foundation in a building permit.
- Wing Walls. These include walls that may retain soil as part of a standard culvert design, bridge design, or tunnel design. Generally these are not permitted through Development Services

Permit and Design Requirements

Retaining walls shall be designed by a Texas Licensed Professional Engineer unless indicated in the following table. Retaining walls may also require a global stability analysis performed by the design professional. The owner is responsible to hire the design professional to provide a final

letter of inspection to DSD if required (example letter attached to this IB). The following table summarizes the requirements for submittal:

IB 171 TABLE

Wall Forces	Retaining Walls		Landscaping Walls
	Height 4-feet and less	Height greater than 4-feet	Height less than 10-feet and greater than 4-feet
No Surcharge	No Permit Required	Permit Required Design Professional Global Stability Analysis* Inspection Letter	Permit Required Design Professional including Landscape Architects Inspection Letter
Surcharge	Permit Required No Design Professional Required City Final Inspection	Permit Required Design Professional Global Stability Analysis* Inspection Letter	Permit Required Design Professional Inspection Letter

Notes:

Design Professional – Requires a Texas Licensed Engineer for all walls except landscaping walls less than 10-feet in height. Landscaping walls less than 10-feet in height may be designed by a Texas Registered Landscape Architect

Inspection Letter – Required letter to clear final inspection and close the permit. Submitted by the design professional in responsible charge performing the on-site inspections during construction– See attached standard letter

*Global Stability Analysis (GSA) - required if the design meets one of the following:

GSA is required for all retaining walls between 4-feet and 10-feet supporting a surcharge

GSA is required for all walls, 10-feet and higher, with or without a surcharge

GSA is not required for any wall in Tarrant and Brackett soils where the bottom of the footing sits on/within Glen Rose limestone bedrock or Edwards limestone bedrock

Submittal for Application, Issuance of Permits and Inspection Process

1. Walls for both residential and commercial applications would use the [Commercial Project Application](#). This application should be used for simple commercial projects by choosing Miscellaneous Structures under Part IV and choosing Retaining Walls under Part V of the application. After filling out the Contact information Part VI, the rest of the application will not apply other than signing the application in PartXII.
2. A design for a wall if included in the construction documents for a one-and two-family dwelling, or a commercial building permit application will require a separate retaining wall permit number for inspection purposes and will not be permitted with the main building permit. The retaining wall permit(s) are considered children of the main building permit and will be required to be closed prior to obtaining a certificate of occupancy.
3. Multiple walls on one lot may be submitted under one permit application. The final inspection requirement from the engineer or landscape architect would cover all the walls on that lot. Alternatively multiple applications and permits for one lot may also be submitted if more appropriate because of construction phasing. In that case a final certification letter for each permit would be required.
4. The [attached Retaining Wall Information Form](#) will need to be submitted with the Commercial Project Application. For multiple walls, turn in one form for each wall as

part of the application package. This information form is to be used for landscaping walls only where a Texas Licensed Professional Engineered Design is required by the Table above.

5. Development Services Department (DSD) will provide plan review of the application within 10 working days. Walls that require a permit, but no design professional as per the Table 171 above, may be submitted as a Walk-through permit.
6. Retaining or landscaping walls are subject to a requirement for inspections by the design professional of record registered/licensed in the state of Texas. Inspection and certification of the construction of the retaining wall/landscaping will be provided by the design professional registered with the State of Texas as required by the Table 171 above. The design professional will be required to submit a letter indicating the construction was in general conformance to the engineered/landscape design as approved by Development Services prior to completion and closing of the permit. A sample letter is attached to this document. The letter will need to be submitted to DSD at the following by mail, hand delivery, or by e-mail:

Development Services
Customer Service
1901 South Alamo
San Antonio, Texas, 78204
E-mailed: callcenter@sanantonio.gov

6. For walls that are 4-feet and less supporting a surcharge, not requiring a design professional, the City of San Antonio will provide a final inspection. The contractor is required to call and scheduled the inspection to close out the permit.

If you have any questions regarding this Information Bulletin or the procedure for retaining walls, please e-mail DSDPlansManagement@sanantonio.gov.

This Information Bulletin is for informational purposes only.

Summary:

Prepared by:	Richard Chamberlin, PE, Development Services Engineer
Reviewed by:	Richard Chamberlin, PE, Development Services Engineer
Authorized by:	Terry Kannawin, Assistant Director



Retaining Wall Information Form (Required at Submittal)

Project Street Address: _____

Owner/Builder _____ Plat #: _____

Subdivision _____ Lot(s) #: _____ Master Plan # (if applicable): _____

Please Note: The City of San Antonio only enforces City, State and Federal zoning and development ordinances and statutes and does not enforce covenants and deed restrictions (CC&Rs). It is imperative and incumbent upon you the applicant to verify the existence of any CC&Rs that may be applicable to your project. See Information Bulletin 234 for additional information.

Required Items for Submission (to be included with a sitework application):

- [] **Site Plan** for all walls requiring a permit (location, extent, and height of the wall/retaining wall in relations to any existing or proposed building/structure, property lines, and utility easements)
- [] **Wall Design** with Details
 - For a wall requiring a Texas Professional Engineered design per IB 171 - Table 171, provide the following:
 - a. Wall dimensions, elevations and cross sections - Show locations of any surcharges and additional loadings affecting retaining wall design
 - b. Geotechnical Report – Must include retaining wall design parameters in report
 - c. Structural details
 - d. Grading plan
 - e. Method of subsurface drainage or show hydrostatic loads used in design
 - f. Parameters used for structural and geotechnical calculations – Provide Factors of Safety: minimum 1.5 Sliding and Overturning - Show how surcharges are addressed by the design.
 - g. Bearing capacity of the foundation soil
 - h. For segmental retaining walls, the details must clearly identify the block manufacturer, block type, drainage requirements, and maximum wall height)
 - i. **Global Stability Analysis** with Factor of Safety of 1.5 (If required by IB 171 Table) – Provide graphical output showing Factor of Safety and input parameters
- [] **Description of Inspection(s)** to be performed by the design professional. The inspections are not considered Special Inspections under Chapter 17 of the International Building Codes. Special Inspections Forms are not required.

RETAINING WALL INFORMATION - Fill in each item (submit separate information for each wall if there are multiple walls)	
Type of Retaining Wall (Check Type)	
Cast in Place Concrete <input type="checkbox"/>	Segmental Block <input type="checkbox"/> Mortar Stone Gravity <input type="checkbox"/> Other <input type="checkbox"/>
List all proposed surcharges used for wall design: _____	
Wall Material _____	Wall Length _____
Maximum Wall Height from Grade _____	Depth of Footing _____
Thickness of Wall at Base of Footing _____	Valuation of Wall \$ _____
Design Professional's Name _____	
Address _____	
Builder/Applicant Name: _____	
Signature: _____	
Date: _____	Phone: _____
Address: _____	

Engineer's Registered Firm/Company's Letterhead

(Date)

(Client Name)

(Client Firm Name)

(Client Address)

(Client Address)

Project: *(Project Name)*

(Project Address)

San Antonio, Texas 782__

Property Legal Description: *(Legal Description from Bexar Appraisal District Account,
Property Survey, Deed, Etc.)*

City of San Antonio Building Permit A/P Number: _____

Dear *(Client)*:

You constructed your retaining wall referenced above using construction documents prepared by *(Design Professional Engineer)*.

Qualified individuals from this office visited the site to check the construction stated above for general conformance with our construction documents. In my opinion, based on our experience, knowledge, information and belief, the stated construction that we observed is in general conformance with our construction documents.

As denoted by the engineering seal on the construction documents and on this letter, we believe we have fulfilled our obligations as an engineer under the Texas Engineering Practice Act pursuant to its requirements to protect the public health, safety, and welfare in the practice of engineering. We further believe we have met those requirements insofar as our responsibility for periodic observation of the work for conformance is concerned.

If you have any questions, please call.

Respectfully,

Engineer Signature
(Engineer Typed Name)

Engineer's P.E. Seal

Notes to help correctly prepare this form letter:

1. Fill in the specific date, client name & address, project information, permit number (A/P) and legal description where italicized.
2. For landscaping walls built to protect tree roots or to hold landscaped beds, allowed to be designed by any design professional registered/licensed with the Texas Board of Professional Engineers or the Texas Board of Architectural Examiners (except Interior Designers – See Table 171), you may substitute the word “engineer” with the appropriate term and substitute the words Texas Engineering Practice Act with the Architects or Landscape Architects statutes Chapter 1051 or Chapter 1052 respectively.
3. Sign, seal, and date before submitting to the City of San Antonio, Development Services Department.